

Remarks

The present Amendment is being filed in consideration of placing the above-identified application in condition for formal allowability.

At the outset, applicants note with appreciation the indication of allowability regarding previously pending claims 10-15. Appreciation is also expressed with regard to the indication that the subject matter of claims 2-9 and 17-24 are considered allowable and that those claims would also be formally allowed upon being re-presented in an appropriate self-contained format. However, as will be shown hereinbelow, the invention according to independent claims 1 and 16, which are the base claims of claims 2-9 and 17-24, respectively, could not have been anticipated in the matter as alleged in the outstanding art rejection. Therefore, applicants consider it unnecessary to re-present, at this time, the objected claims 2-9 and 17-24 in an appropriate self-contained format.

Base claim 1 was amended to further define the invention including in terms of further clarifying the subject matter being covered thereby. In that regard, the previously existing expression "wherein a node arranged in the vicinity of an input terminal of the gate circuit connected to an end of the first long-distance wiring" was amended to "wherein a node arranged in the vicinity of an input terminal of the gate circuit located furthest away on the first long-distance wiring from an output of the driver circuit." (**emphasis added**) The revised language in claim 1 is consistent with the descriptive language on page 7, lines 1-4, of the original Specification. As can be seen from the example Fig. 1 embodiment of the invention, although not limited thereto, node 105, at the input of the right-most gate circuit 103 located furthest away on the first long-distance wiring (e.g., 104) from an output of the driver circuit

(e.g., 100), and an input of the driver circuit are connected through a second long-distance wiring (e.g., 106) and a speed-increasing circuit (e.g., 107). This is consistent with the descriptive language from page 6, line 26, to page 7, line 6, of the original Specification. It is submitted, such a scheme as that now called for in independent claim 1 and, therefore, also in connection with claims 25-27, which are dependent thereto, was neither disclosed nor suggested by Krishnamurthy (USP 6,271,713). It will also be shown, hereinbelow, the invention according to independent claim 16 could not have been anticipated nor, for that matter, rendered obvious in view of Krishnamurthy. Therefore, insofar as presently applicable, the outstanding rejection of claims 1,16, and 25-27 is traversed and reconsideration and withdrawal of the same is respectfully requested.

In accordance with independent claim 1, the invention therein calls for a driver circuit and a plurality of gate circuits which are connected over the entire length of the first long-distance wiring so that an input signal (VIN) is received by the plurality of gate circuits via the driver circuit and the first long-distance wiring. Also in accordance with independent claim 1, the invention calls for *a node arranged in the vicinity of an input terminal of the gate circuit located furthest away on the first long-distance wiring from an output of the driver circuit* and an input terminal of the driver circuit *to be connected through a second long-distance wiring and a speed-increasing circuit*. For example, with regard to the disclosed Fig. 1 embodiment, although not limited thereto, the right most gate circuit 103 in the illustration which is coupled to node 105 relates to the "gate circuit located furthest away on the first long-distance wiring from the output of the driver circuit." Also, the long line 104 relates to the "first long-distance wiring," 100 relates to the "driver circuit," 106

relates to the "second long-distance wiring" and 107 relates to the "speed-increasing circuit" of the invention. As explained in the related description in the Specification, a signal change may be accelerated not only from one end of the driver circuit 100 but, also, from the other, opposing end such as by using the second, long-distance wiring 106 in combination with a speed-increasing circuit 107. Such a scheme causes significant reduction in the wiring delay time which leads to an increase in the critical path speed as well as in the overall operation speed of the semiconductor integrated circuit device. (Page 4, lines 14-28, and from page 7, line 7, to page 8, line 18, etc., of the present Specification. The invention according to independent claim 16 also is inclusive of a semiconductor integrated circuit device with a circuit construction as that covered by independent claim 1, although worded somewhat differently therefrom. It is submitted, therefore, the invention according to independent claim 16 is also considered patentable over Krishnamurthy's disclosure.

Krishnamurthy disclosed a die having a driver circuit, employing CMOS technology in connection with increasing the load driving performance. Specifically, Krishnamurthy's driver circuit has a construction featuring a series connected pair of CMOS inverters and a pull-up n-channel MOSFET. (Column 1, line 63, to column 2, line 5; column 4, lines 20-21, etc., in Krishnamurthy.) On the other hand, in accordance with the present invention, the driver circuit is separately disposed from the speed-increasing circuit and, also, the input and output sides of the driver circuit are connected to different ones of the first and second long-distance wirings, which is in clear contradistinction with that taught by Krishnamurthy.

In accordance with the present invention, the concept of "distance" or "length" of wiring is important, noting that the claimed invention, as supported by the related description in the Specification, calls for an arrangement in which one of the plurality of gate circuits that is located furthest away ... from an output of the driver circuit is connected to the input side of the driver circuit through a second long-distance wiring and a speed-increasing circuit, as shown by the various example embodiments of the present application, although not limited thereto. That is, the present invention is directed to a scheme which, for example, reduces delays due to wiring on the output side of the driver. Applicants have achieved a scheme which takes into consideration both the driver as well as the wiring in connection with achieving a high-speed operation. Such, it is submitted, is in clear contradistinction with that taught by Krishnamurthy. It is submitted, also, Krishnamurthy was not concerned with reducing delay caused by wiring on the output side of the driver. In that regard, there is no specific discussion nor inference made in Krishnamurthy's disclosure which shows that Krishnamurthy was concerned with the wiring lengths as well as the distances between that of the driver and gate circuits 146, 148, etc., especially, wiring 144 (referred to in the rejection as relating to the "first long-distance wiring" of the present invention). Clearly, therefore, for these and other reasons, the invention according to claim 1 and, therefore, also according to the dependent claims thereof could not have been anticipated nor rendered obvious in view of Krishnamurthy.

Regarding independent claim 16, it is submitted, the invention called for therein could not have been anticipated nor rendered obvious based on Krishnamurthy's disclosure. In support of this, the above discussion in connection

with the showing of patentability of the invention according to claim 1 over that of Krishnamurthy is also applicable with regard to independent claim 16. In addition to the above discussion, it is emphasized that driver circuit 100 is inclusive of a series connected pair of CMOS inverters and an n-channel MOSFET, referred to as nFET M1 (see Figs. 1, 4, 5, etc., in Krishnamurthy.) Therefore, the electrical connection, shown in Fig. 3 of Krishnamurthy, between the driver 140 and the gate circuits 146, 148 is a direct connection from the output side of the driver 140 to the gate circuits via wiring 144. On the other hand, consistent with that called for in independent claim 16 of the present invention, the "first wiring" must necessarily be connected to the output side of the driver circuit since the claim calls for the plurality of gate circuits to receive an input signal via the driver circuit. Also according to claim 16, the "second wiring" and the "speed-increasing circuit" are necessarily coupled between the input side of the driver circuit and the end of the first wiring, similarly as that shown by the connection of the long line wiring 106 and speed-increasing circuit 107 between the input side at VIN and the end of the first wiring at second node 105, which second node is in the vicinity of the input terminal to the gate circuit (103) located physically at the farthest as viewed from the output node of the driver circuit 100. Such, it is submitted, was neither disclosed nor realizable based on Krishnamurthy's teachings. For these and other reasons, the invention according to independent claims 1 and 16 and, therefore, also according to the corresponding dependent claims thereof not only could not have been anticipated by Krishnamurthy but, moreover, could not have been suggested therefrom.

Therefore, in view of the amendments presented hereinabove together with these accompanying remarks, reconsideration and withdrawal of the previously

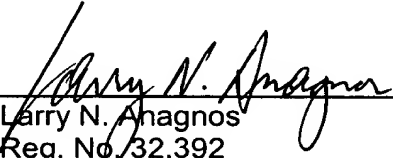
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outstanding rejection as well as favorable action therefor on all of the presently pending claims, i.e., claims 1-27, and an early formal notification of allowability of the above-identified application is respectfully requested.

If the Examiner believes that there are any other points which may be clarified or otherwise disposed of, either by telephone discussion or by a personal interview, the Examiner is invited to contact the undersigned representative at the number indicated below.

To the extent necessary, applicants petition for an extension of time under 37 CFR §1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including Extension of Time fees, to the Deposit Account of Antonelli, Terry, Stout & Kraus, LLP, Dep. Acct. No. 01-2135 (500.40501X00), and please credit any excess fees to such deposit account.

Respectfully submitted,
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